Docket No.: LA-6658-110US (PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Michael Cohen

Application No.: 10/723,836 Confirmation No.: 9273

Filed: November 25, 2003 Art Unit: N/A

For: LOAD BEARING SYSTEM WITH SECURE POUCH ATTACHMENT Examiner: Not Yet Assigned

CLAIM FOR PRIORITY AND SUBMISSION OF DOCUMENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicant hereby claims priority under 35 U.S.C. 119 based on the following prior foreign application filed in the following foreign country on the date indicated:

Country	Application No.	Date
Israel	153,261	December 4, 2002

In support of this claim, a certified copy of the said original foreign application is filed herewith.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0337, under Order No. LA-6658-110US from which the undersigned is authorized to draw.

Dated: April 13, 2004

Respectfully submitted,

By _____
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STATE OF ISRAEL

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משרד המשפטים
לשכת הפטנטים

This is to certify that annexed hereto is a true copy of the documents as originally deposited with the patent application of which particulars are specified on the first page of the annex.

זאת לתעודה כי רצופים בזה העתקים נכונים של המסמכים שהופקדו לכתחילה עם הבקשה לפטנט לפי הפרטים הרשומים בעמוד הראשון של הנספח.

This 03-03-2004 היום

רשם הפטנטים
Commissioner of Patents

נתאשר
Certified

חוק הפטנטים, התשכ"ז - 1967
PATENTS LAW, 5727-1967

לשימוש הלשכה
For Office Use

מספר: 153261 Number

תאריך 04-12-2002 Date

הוקדם.הדחה
Ante/Post-dated

בקשה לפטנט
Application for Patent

(אני, (שם המבקש, מענו — ולגבי גוף מאוגד — מקום התאגדותו)
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הדין
בעל אמצאה מכח _____ שממה הוא
Owner, by virtue of of an invention, the title of which is:

מערכת נשיאה עם חיבור לכיס

בעברית
(Hebrew)

LOAD BEARING SYSTEM WITH SECURE POUCH ATTACHMENT

(באנגלית)
English

Hereby apply for a patent to be granted to me in respect thereof. מבקש בזאת כי ינתן לי עליה פטנט.

*בקשת חלוקה Application for Division	*בקשת פטנט מוסף — Application for Patent of Addition	*דרישת דין קדימה Priority Claim		
מבקשת פטנט from Application No. _____ מס' Date _____ מיום	*לבקשה/לפטנט to Patent/Appl. No. _____ מס' Date _____ מיום	מספר/ סימן Number/Mark	תאריך Date	מדינת האיגוד Convention Country

*יפוי כח: כללי/מיוחד – רצוף בזה / עוד יוגש
P. O. A.: general/specific – attached/to be filed later –

Has been filed in case 119,386 הוגש בעניין

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Signature of Applicant

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טופס זה, כשהוא מוטבע החותם לשכת הפטנטים ומושלם במספר ובתאריך החתשה, תינו אישור להגשת הבקשה שפרטיה רשומים לעיל.
This form, impressed with the Seal of the Patent Office and indicating the number and date of filing, certifies the filing of the application, the particulars of which are set out above

LOAD BEARING SYSTEM WITH SECURE POUCH ATTACHMENT

מערכת נשיאה עם חיבור לכיס

The present invention relates to pouches for carrying items needed by soldiers, police and other security forces.

More particularly, the invention provides an improved secure arrangement for attaching a military-style removable pouch to a base item worn by security and combat personnel.

Pouches attached to a belt or a coat are in common use by soldiers to carry ammunition, rifle cleaning items, grenades, a radio, first aid items, tools, food items and any other small articles which might be needed while carrying out a mission. Pouches are available in various sizes, and the number and size of pouches to be carried will be dependent on an assessment of what might be required to carry out a specific task. Unneeded pouches are removed because a lightly-loaded soldier can move faster and farther when not burdened by carrying unnecessary items.

Pouch removal or addition should be possible quickly, securely and without the need for tools. Accordingly, systems have been developed for attaching pouches, including by means of the hook-in-pile method, such as Velcro™ attachments, which can be used many times while maintaining its attachment properties.

The hook-in-pile attachment does not, nor is it intended to provide resistance to a strong force tending to pull apart the connected item. However when crawling on rough ground or pushing through dense undergrowth, conventionally attached pouches, possibly containing essential items, are sometimes lost, which can result in failure to fulfill a mission. Worse, the lost pouch may contain items which should not fall into enemy hands.

The hook-in-pile system is so versatile and has so many other advantages, that soldiers have become fully accustomed to its use, and the military are reluctant to abandon this attachment method. Consequently, there is a demand for hook-in-pile attachment method which yet meets the attachment

security requirements of harsh use, typically at the hands of commandos and special forces.

In US Patent No. 5,644,792 by (Tishler et al.?) (the present inventors?) disclose a system for secure retention of armor panels. With regard to pouches: "Pouches 16 are attached to panels 12, 14 in a permanent manner by sewing, and cannot become inadvertently detached from the panels." Such an arrangement does not satisfy the aims of the present invention, which is to provide a modular system adaptable to change.

Braunht in US Patent no. 4,497,069 refers to the use of Velcro-type fasteners only for the purpose of holding or adding more armor panels.

An arrangement for pouch mounting that is both flexible and secure is disclosed by Holland et al. in European Patent EP1042975, which provides for both a fixed and a releasable belt loop. The arrangement however mandates the use of an externally worn belt, which is not a requirement in the present invention.

It is therefore one of the objects of the present invention to obviate the disadvantages of prior art pouch attachment arrangements and to provide a versatile fastening for a removable pouch.

It is a further object of the present invention to provide a secure method of pouch attachment which will eliminate any possibility of inadvertent separation and loss thereof.

Yet a further object of the present invention is to allow pouch attachment to a vest without using an exterior belt for this purpose.

The present invention achieves the above objects by providing a modular load-bearing system to be worn by security and combat personnel, comprising a base surface provided with a plurality of sleeve means and a

plurality of pouches, each of said pouches having a major flange-like extension attached at one of its ends to a back surface of said pouch, said extension being sized to be inserted through one of said sleeves and to be retained therein by releasable interacting fastening means provided on a surface associated with said base surface and on said pouch.

In a preferred embodiment of the present invention there is provided a modular load-bearing system wherein said interacting fastening means is of the hook-in-piles Velcro™-type.

In a most preferred embodiment of the present invention there is provided modular load-bearing system wherein said pouch is further provided with a minor flange-like extension attached to an end of said back surface of said pouch opposite the end supporting said major flange-like extension, said major flange-like extension protruding beyond said sleeve, interacting fastening means being provided for connecting said minor flange-like extension with a protruding portion of said major flange-like extension.

Yet further embodiments of the invention will be described hereinafter.

It will thus be realized that the novel attachment arrangement provides a degree of security unknown in the prior art for removable pouches. In some embodiments, such as is described in FIGS. 4 and 5, even a deliberate attempt to tear off the pouch without opening the closed hook-in-pile flaps is firmly resisted by the attachment. It can thus be stated without reservation that when attached according to the system of the present invention the probability of unintended pouch loss is zero. Even so, only a few seconds are needed to release the pouch in its intended manner, and if needed replace same by a pouch of a different size.

It will be understood that although the system of the present invention is primarily intended to serve the needs of military and security forces, the

advantages of the system are also realized when applied for civilian purposes, for example on a mountain climber's rucksack, or on a school bag.

The invention will now be described in connection with certain preferred embodiments with reference to the following illustrative figures so that it may be more fully understood.

With specific reference now to the figures in detail, it is stressed that the particulars shown are by way of example and for purposes of illustrative discussion of the preferred embodiments of the present invention only and are presented in the cause of providing what is believed to be the most useful and readily understood description of the principles and conceptual aspects of the invention. In this regard, no attempt is made to show structural details of the invention in more detail than is necessary for a fundamental understanding of the invention, the description taken with the drawings making apparent to those skilled in the art how the several forms of the invention may be embodied in practice.

In the drawings:

FIG. 1a is a perspective view of a preferred embodiment of the pouch and sleeve prior to assembly and according to the invention;

FIG. 1b is a sectioned side view of the same embodiment shown after assembly;

FIG. 2 is a perspective view of an embodiment wherein the base surface is part of a garment;

FIG. 3 is a perspective view of an embodiment wherein different size pouches are held on the base surface;

FIG. 4 is a perspective view of an additional preferred embodiment of the pouch and sleeve prior to assembly, the pouch being provided with an additional flap; and

FIG. 5 is similar to FIG. 4 and provided with a flap and pad to seal together the pouch extensions.

There is seen in FIGS. 1a and 1b a portion of a modular load-bearing system 10 to be worn by security and combat personnel.

A base surface 12 in the present embodiment is a part of a rucksack. Attached to the base surface 12 are a plurality of sleeves 14, one of which is seen in the figure. Pouches 16, only one being seen, are attached as follows: The pouch 16 has a major flange-like extension 18 attached at its upper end to the back surface 20 of the pouch. The extension 18 is sized to be inserted through the sleeve 14 and to project from the bottom thereof. Then the back surface 20 of the pouch and the outer face of the sleeve 14, which are provided with interacting fastening means 22 for removable interconnection thereof, are pressed together. Preferably the interacting fastening means 22 is of a coarse grade of the hook-in-piles Velcro™-type.

Should the back surface 20 of the pouch become disconnected from the sleeve 14, an event of which the wearer will likely be aware, the pouch 16 is not lost because it is still retained by the major flange-like extension 18 inserted in the sleeve 14. The user can easily reconnect the pouch 16 by pushing same against the outer face of the sleeve 14.

With regard to the rest of the figures, similar reference numerals have been used to identify similar parts.

Referring now to FIG. 2, there is seen a portion of a modular load-bearing system 24, wherein the base surface 26 is an outer surface of a garment such as an outer vest. The system is similar to that seen in FIG. 1.

In the present embodiment the sleeves 28, one of which is seen in the figure, are formed from a plurality of panels 30a 30b, each of the panels 30a, 30b being permanently attached by sewing 31 to the base surface 26 along two spaced-apart lateral edges.

FIG. 3 illustrates a modular load-bearing system 32, wherein large, medium and small pouches 34, 16, 36 are connected to the base surface 37. The larger pouches 34 are intended, for example, for rifle ammunition magazines or for hand grenades. The smaller pouches 36 are intended, for example, for rifle cleaning components and for a cellular radio telephone. All pouches have a major flange-like extension 38 attached at the upper end of the back surface of the pouch, for insertion in a sleeve 40, as seen in FIG. 1a.

Seen in FIG. 4 is a detail of a modular load-bearing system 42 intended to be even more secure than the arrangements seen in the previous figures.

The pouch 44 is further provided with a minor flange-like extension 46 attached to an end of the back surface 48 of the pouch, opposite the end 49 supporting the major flange-like extension 50.

When assembled, the major flange-like extension 50 protrudes beyond the sleeve 14, as seen in FIG. 1b. Interacting fastening means 52 are provided for interconnecting the minor flange-like extension 46 with the protruding portion of the major flange-like extension 50 to form a loop. The major extension 50 is thus retained in the sleeve 14 and even if the back surface of the pouch 44 detaches from the sleeve 14, the major extension 50 retains the pouch 44 from disconnection.

It will be noted that, as in previous embodiments, the pouch 44 can only be removed by disconnecting its attachment from the base sleeve 14 and then sliding the pouch upwards. Such movement is however resisted in the present embodiment because of the interconnection of the two extensions 46,50. Upward movement of the pouch 44 applies a shear force to the extensions fastening means 52, and shear forces are resisted very strongly by the hook-in-pile attachment. The attachment could be broken by peeling forces, but due to the sleeve construction only shear forces are transmitted to the major extension 50, and these are resisted, preventing loss of the pouch 44.

Referring now to FIG. 5, there is depicted an arrangement providing an ultimate degree of security for a modular load-bearing system 54 generally similar to 42 seen in FIG. 4. As in FIG. 4, releasable interacting fastening means 52 are provided on both extensions 46, 50 which may then be interlocked.

The minor extension 46 is however provided with releasable interacting fastening means 52 on both of its faces.

A further pad 56 for a releasable interacting fastening means is provided directly on the base surface 60, and underneath the sleeve 62. In a further embodiment (not shown) the connecting pad is mounted on an extension of the sleeve.

An openable flap 64 is permanently attached to and depending from the base surface 60 at a position below the further pad 56. The face of the flap 64 forming the inner side when the flap 64 is closed is also provided with releasable interacting fastening means 66.

When closed, the central portion of the flap 64 covers the minor flange-like extension 46 and connects to fastening surface 52. Furthermore, the side portions 64b of the flap 64 spanning the central portion interconnect with the pad 56.

While the probability of inadvertent pouch disconnection is reduced to virtually zero, the pouch 68 can nevertheless be intentionally removed in a few seconds by peeling opening the various interconnections and withdrawing the major extension 50 from the sleeve 62.

It will be evident to those skilled in the art that the invention is not limited to the details of the foregoing illustrative embodiments and that the present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof. The present embodiments are therefore

to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

WHAT IS CLAIMED IS:

1. A modular load-bearing system to be worn by security and combat personnel, comprising a base surface provided with a plurality of sleeve means and a plurality of pouches, each of said pouches having a major flange-like extension attached at one of its ends to a back surface of said pouch, said extension being sized to be inserted through one of said sleeves and to be retained therein by releasable interacting fastening means provided on a surface associated with said base surface and on said pouch.

2. A modular load-bearing system according to claim 1, wherein said base surface is an outer surface of a garment.

3. A modular load-bearing system according to claim 1, wherein said sleeves are formed from a plurality of panels, each of said panels being attached to said base surface along two spaced-apart lateral edges.

4. A modular load-bearing system according to claim 1, wherein said interacting fastening means is of the hook-in-piles Velcro™-type.

5. A modular load-bearing system according to claim 1, wherein said pouches are of varying dimensions.

6. A modular load-bearing system according to claim 1, wherein said releasable interacting fastening means are provided on an extension of said sleeve.

7. A modular load-bearing system according to claim 1, wherein said releasable interacting fastening means are provided directly on said base surface.

8. A modular load-bearing system according to claim 1, wherein said back surface of said pouch and an outer face of said sleeve are provided with interacting fastening means for removable interconnection thereof.

9. A modular load-bearing system according to claim 1, wherein said pouch is further provided with a minor flange-like extension attached to an end of said back surface of said pouch opposite the end supporting said major flange-like extension, said major flange-like extension protruding beyond said sleeve, interacting fastening means being provided for connecting said minor flange-like extension with a protruding portion of said major flange-like extension.

10. A modular load-bearing system according to claim 9, further provided with an openable flap depending from said base surface and when closed arranged to cover said minor flange-like extension, said flap and said minor flange-like extension being provided with interacting fastening means for interconnection when said flap is closed.

For the Applicant
WOLFF, BREGMAN AND GOLLER
by: S. Goller

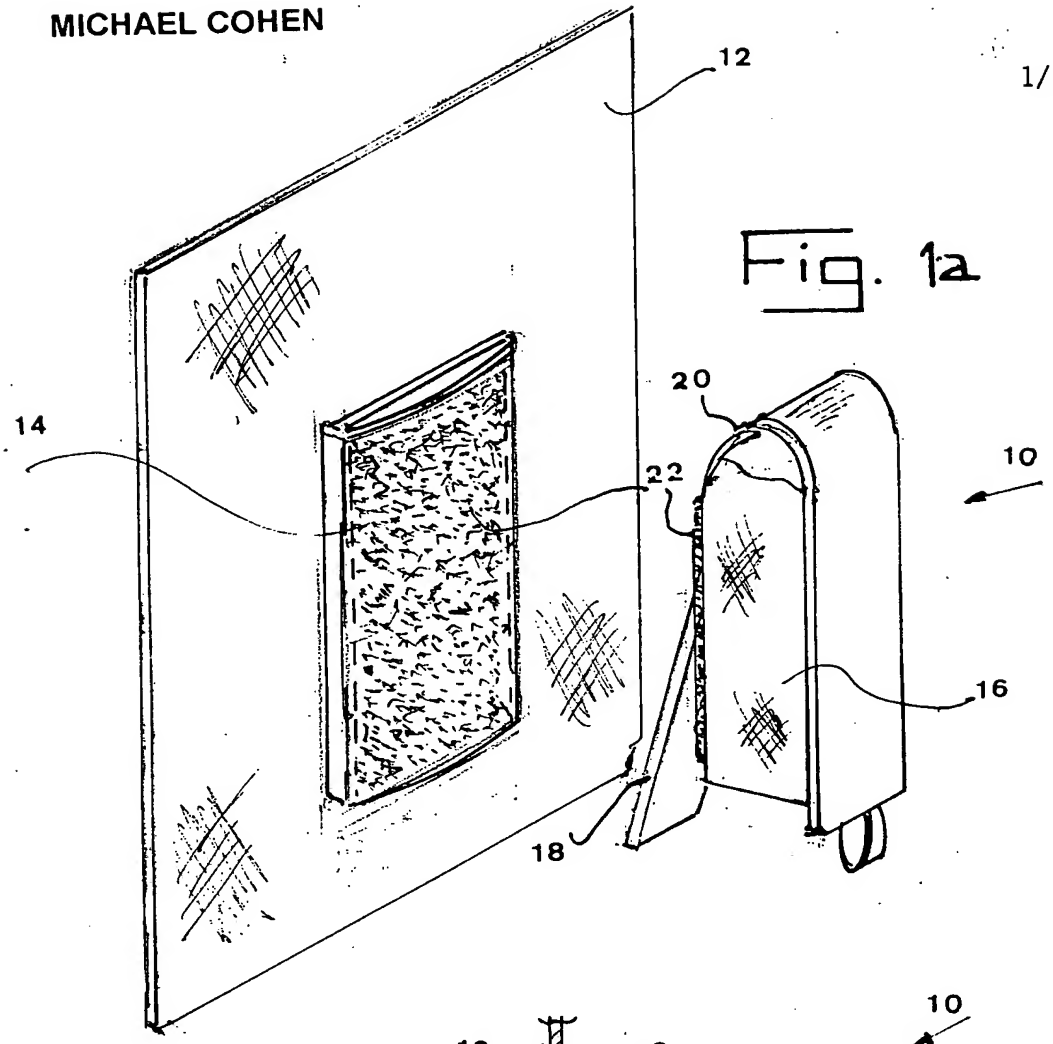


Fig. 1a

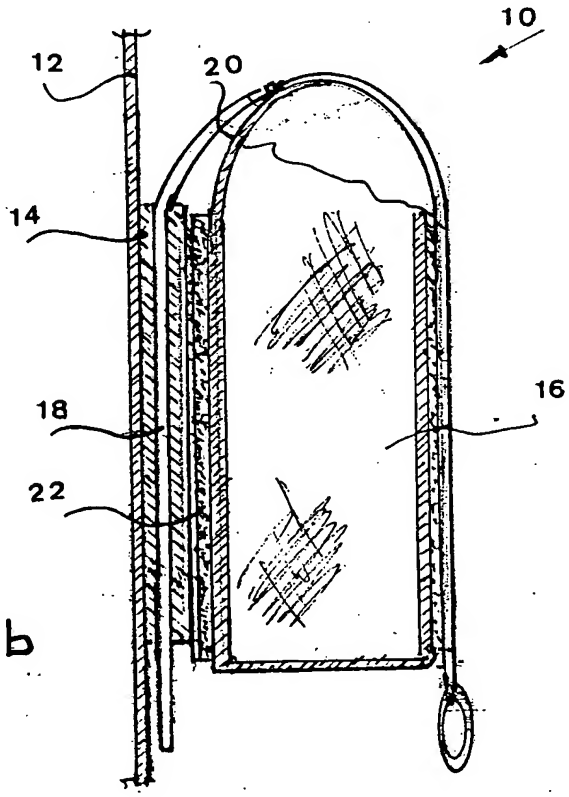
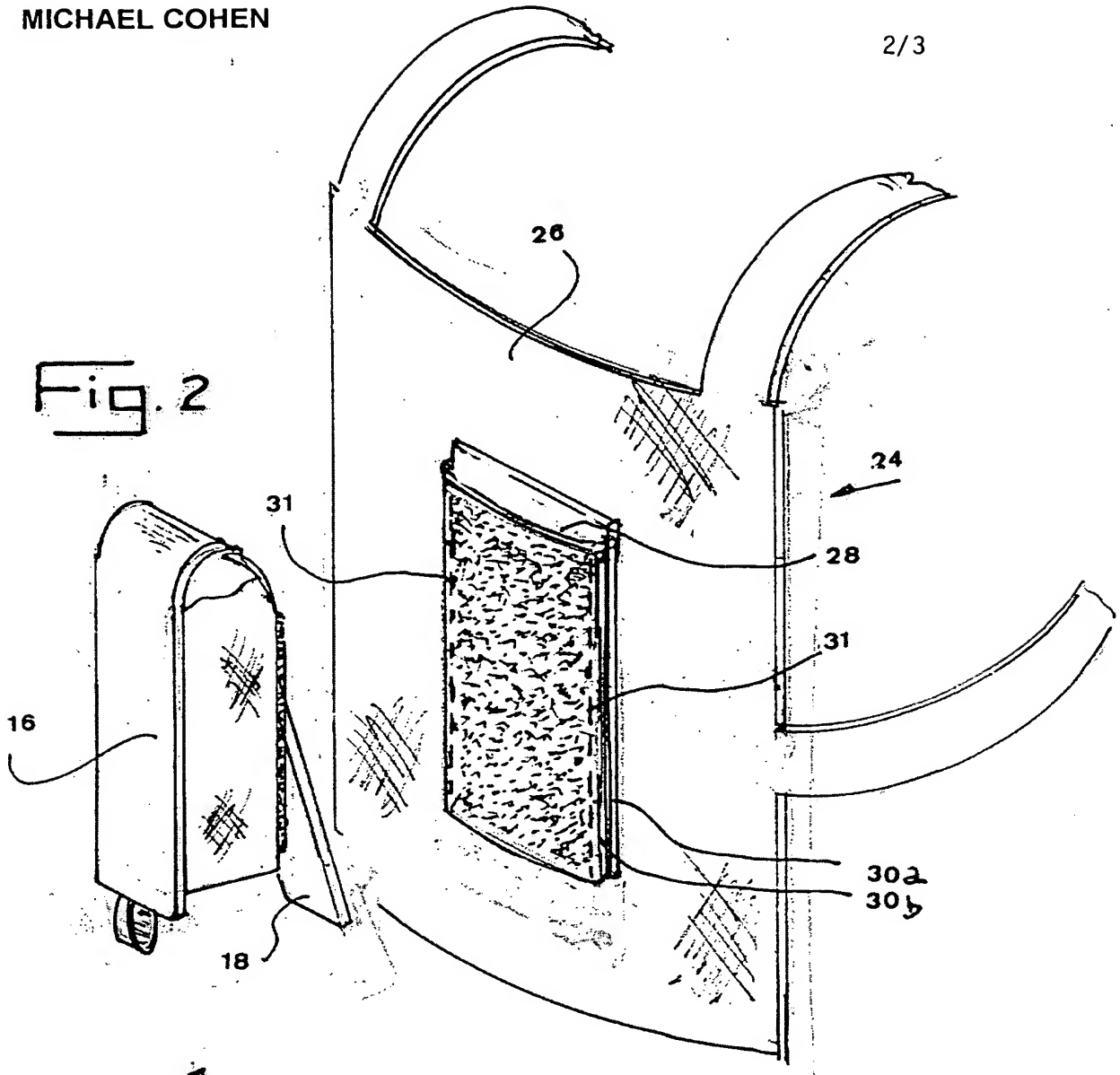


Fig. 1b

Fig. 2



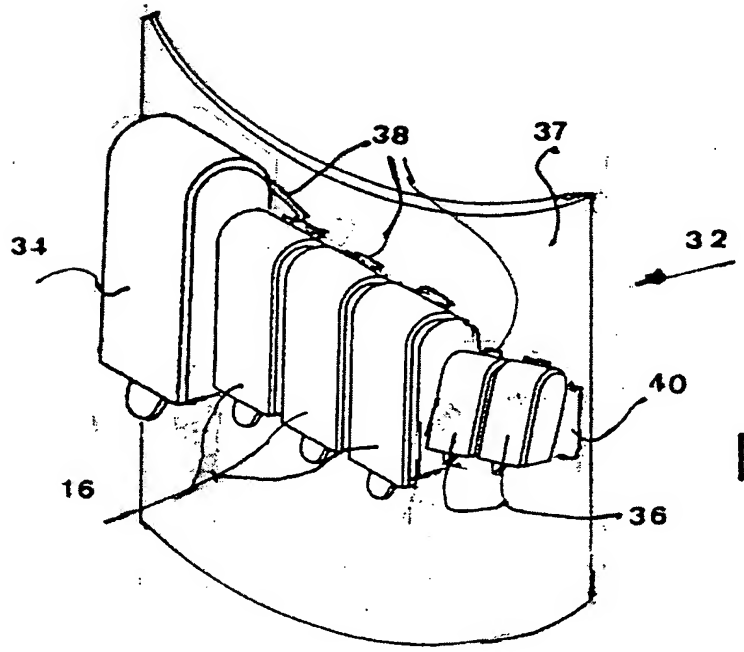
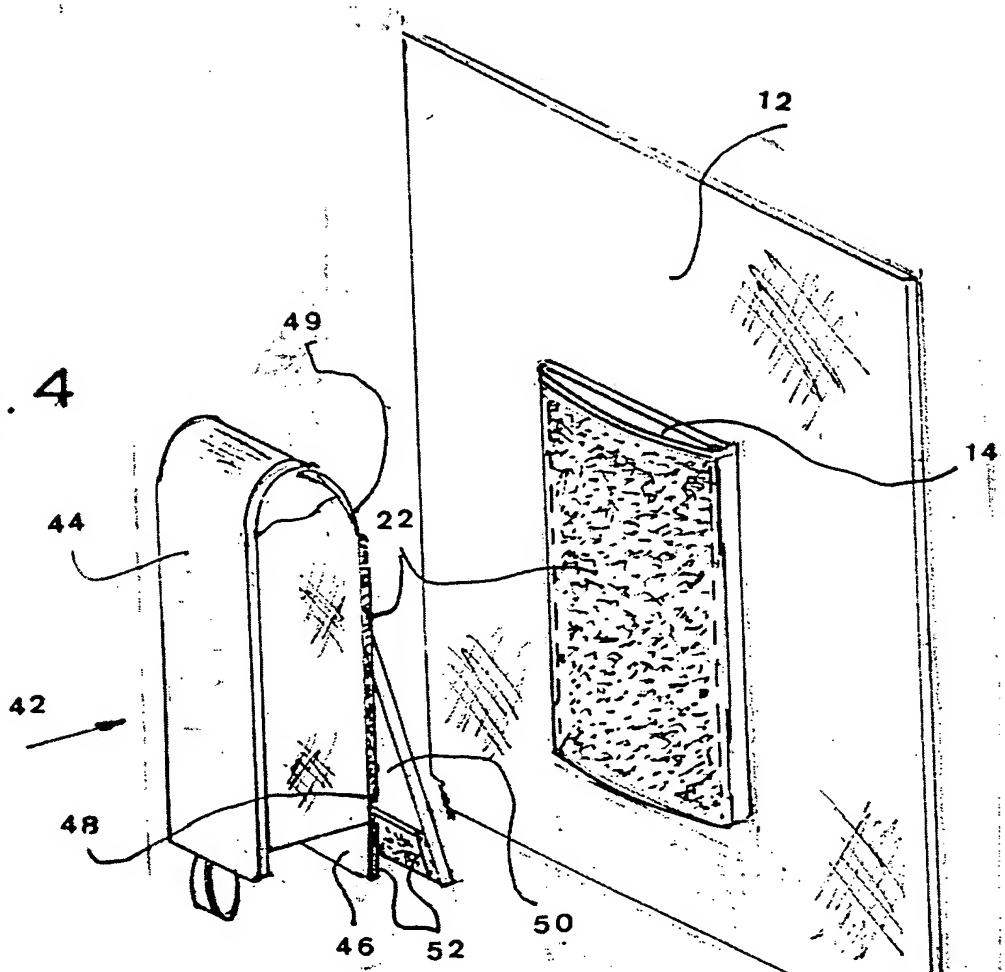


Fig. 3

Fig. 4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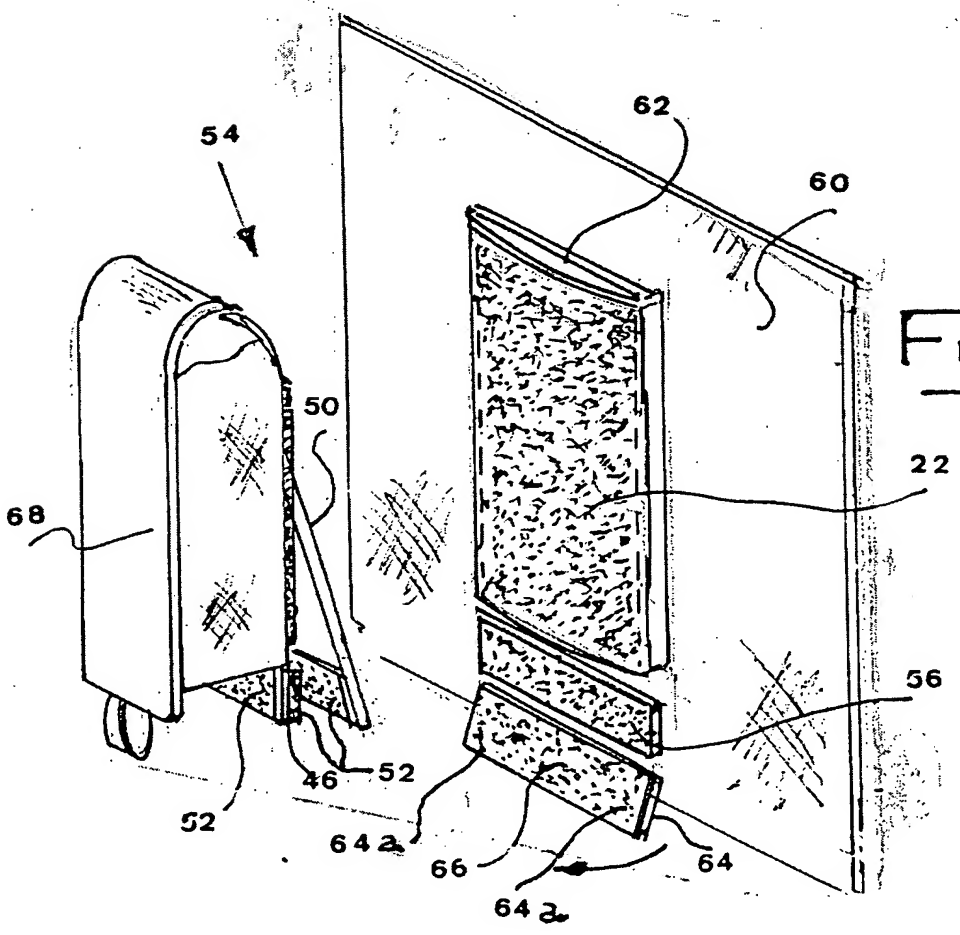
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Fig. 5